

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Previously Amended) A foldable Pilates exercise apparatus comprising:
 - a generally rectangular frame
 - having a head end,
 - a foot end,
 - a hinged left side rail having a head section and a foot section, so that its head and foot sections may be folded to an upright position, and
 - a hinged right side rail, parallel to the left side rail, the right side rail having a head section and a foot section, so that its head and foot sections may be folded to an upright position;
 - a movable carriage mounted on the frame, such that the carriage may be moved along the left rail and right rail between the head and foot ends, the carriage having a generally flat upper surface;
 - a counterbalance mechanism, such that the counterbalance mechanism provides assistance in folding the apparatus, and provides resistance when unfolding the apparatus; and
 - at least one carriage spring member having a first end detachably connected to the carriage and a second end detachably connected in proximity to the foot end of the frame.
2. (Currently Amended) The exercise apparatus of claim 1 wherein the counterbalance mechanism comprises

a shaft;

at least one torsion spring positioned on the shaft, the spring having a first end and a second end;

a ~~first~~ means for restricting the first end of the spring from moving relative to the frame;

a ~~second~~ means for restricting the second end of the spring from moving relative to the shaft;

such that rotating the ~~first~~ means for restricting the first end relative to the ~~second~~ means for restricting the second end to wind or unwind the torsion spring results in a spring force to provide a torque that resists an unfolding of the exercise apparatus and assists in folding the exercise apparatus.

3. (Currently Amended) The exercise apparatus of claim 1 further comprising

a head base, such that the head base supports the head end of the frame;

and

a frame locking mechanism which prevents at least one of the left side rail head section and the right side rail head section from pivoting with respect to the head end base.

4. (Previously Amended) The exercise apparatus of claim 3 wherein the frame locking mechanism further comprises

a frame locking shaft;

a first conical male member on the frame locking shaft;

a first conical female member on the frame;

a means for securely engaging and disengaging the male conical member from the female conical member.

5. (Previously Amended) The exercise apparatus of claim 4 wherein the means for engaging and disengaging the male conical member from the female conical member further comprises

a bracket positioned on the head end base assembly, the bracket having a threaded internal portion;

a threaded section on the frame locking shaft, such that

the threaded section on the frame locking shaft may be threaded into the threaded internal portion of the bracket, thereby forcing the first conical male member on the frame locking shaft into the first conical female member on the frame, and the threaded section on the frame locking shaft may be unthreaded from the threaded internal portion of the bracket, thereby releasing the first conical male member on the frame locking shaft from the first conical female member on the frame; and

at least one knob mounted on the frame locking shaft,

such that the knob can be turned in a first direction to thread the threaded section on the frame locking shaft into the threaded internal portion of the bracket, and

the knob can be turned in a second direction to unthread the threaded section on the frame locking shaft into the threaded internal portion of the bracket.

6. (Original) The exercise apparatus of claim 1 further comprising a carriage position adjustment mechanism.

7. (Previously Amended) The exercise apparatus of claim 6 wherein the carriage position adjustment mechanism further comprises a means for maintaining the axial alignment of the movable carriage with respect to the hinged left and right side rails.

8. (Previously Amended) The exercise apparatus of claim 6, wherein the carriage position adjustment mechanism is a single operation mechanism further comprising

a carriage spring anchor bar having a first end in proximity to the left rail and a second end in proximity to the right rail, such that the second end of the spring member may be attached to the spring anchor bar; and

a positioning element on at least one end of the carriage spring anchor bar, the positioning element including

a means for adjustably positioning the carriage spring anchor bar longitudinally between the foot end and the head end of the apparatus and locking and releasing the carriage spring anchor bar, such that in the locked state the means for adjustably positioning cannot adjust the position of the carriage spring anchor bar relative to the foot end of the frame, and in the released state the means for adjustably positioning can adjust the carriage spring anchor bar relative to the foot end of the frame; and

a means for axially aligning the carriage spring anchor bar in a path approximately orthogonal to the side rails as the carriage spring anchor bar is moved from a first desired setting to a second desired setting.

9. (Previously Amended) The exercise apparatus of claim 8 wherein

positioning elements are integral to each end of the carriage spring anchor bar;

the means for adjustably positioning comprises

at least one locating pin on at least one positioning element, and

a plurality of locating slots fixed relative to the side rails, such that

the locating pin may be inserted into a locating slot; and

the means for axially aligning comprises

at least one guide pin on each positioning element, and

a guide slot fixed relative to each side rail, such that the guide pin

may be inserted through the guide slot, such that the positioning elements may be tilted

in order to remove the locating pin from the locating slot without releasing the guide pin

from the guide slot.

10. (Original) The exercise apparatus of claim 1 further comprising
a left pole located at the head end of the frame in proximity to the left side rail; and
a right pole located at the head end of the frame in proximity to the right side rail.

11. (Original) The exercise apparatus of claim 10 further comprising
a pole cap section having a first end attached to the top of the left pole,
and a second end attached to the top of the right pole.

12. (Original) The exercise apparatus of claim 1 further comprising
a left pole located at the head end of the frame in proximity to the left side rail;

a right pole located at the head end of the frame in proximity to the right side rail;

a left pulley adjustably mounted on the left pole, such that the left pulley may be positioned at a desired height; and

a right pulley adjustably mounted on the right pole, such that the right pulley may be positioned at a desired height.

13. (Original) The exercise apparatus of claim 12 wherein

a left pole located at the head end of the frame in proximity to the left side rail;

a right pole located at the head end of the frame in proximity to the right side rail;

the left pulley is mounted on the left pole on a left pulley rotation mechanism, such that the left pulley may be rotated at least 90 degrees with respect to the frame; and

the right pulley is mounted on the right pole on a right pulley rotation mechanism such that the right pulley may be rotated at least 90 degrees with respect to the frame.

14. (Original) The exercise apparatus of claim 13 wherein

the left pulley may be rotated to a position approximately perpendicular to the left side rail, and moved into a position lower than the top of the left side rail; and

the right pulley may be rotated to a position approximately perpendicular to the right side rail, and moved into a position lower than the top of the right side rail.

15. (Original) The exercise apparatus of claim 13 wherein the left pulley rotation mechanism further comprises

- a handle with a first end adjustably mounted on the left pole and a second end;
- a socket in the second end of the handle;
- a slot in the second end of the handle extending at least 90 degrees around the socket;
- a pulley mount rotatably positioned in the socket;
- a pulley mounting bolt assembly comprising
 - a bolt attached at a first end to a pulley bracket, and attached at a second end to the pulley mount through the slot in the second end of the handle,
 - a washer on the bolt between the slot and the pulley bracket, and
 - a spring on the bolt between the washer and the pulley bracket,

such that the spring holds the pulley in a desired location, and such that the location may be changed by rotating the pulley bracket to a desired location such that the bolt passes through the slot extending around the socket.

16. (Original) The exercise apparatus of claim 1 further comprising

- a foot end support which supports the left side rail foot section and the right side rail foot section;
- a foot end cross brace having a first end attached to the left side rail foot section, and a
 - second end attached to the right side rail foot section;
 - at least one wheel mounted in proximity to the foot end support; and

at least one wheel mounted in proximity to the foot end cross brace.

17. (Original) The exercise apparatus of claim 1 wherein the carriage further comprises

an upper section;

a lower section; and

a hinge attaching the upper section to the lower section, such that the upper section may be unfolded by pivoting the upper section on the hinge.

18. (Original) The exercise apparatus of claim 17 further comprising a plurality of mats, such that the mats may be placed on the side rails after the upper section of the carriage is unfolded from the lower portion of the carriage.

19. (Original) The exercise apparatus of claim 1 further comprising an adjustable footbar.

20. (Original) The exercise apparatus of claim 19 wherein the adjustable footbar further comprises

a U-shaped footbar comprising

a first leg pivotably mounted in proximity to the right side rail, and

a second leg pivotably mounted in proximity to the left side rail;

a pivotably mounted footbar support bar comprising

an H-shaped frame comprising

a right leg having a first end pivotably mounted to the first leg of the footbar, and a second hooked end,

a left leg having a first end pivotably mounted to the second leg of the footbar, and a second hooked end, and

a center member connecting the right leg to the left leg; and
at least one adjustment bracket having a plurality of pins, such that the
hooked ends of the right leg and left leg may be positioned over a pin.

21. (Previously Amended) A method for storing and transporting a reformer
exercise apparatus having a frame with a head end and a foot end, the frame including
a first and second rail, each rail comprising a rail head section attached by a hinge to a
rail foot section, the method comprising

folding the reformer frame from an extended lateral position to an upright
folded position by

lifting a portion of the frame from a point near the center of a rail,
providing a counterbalance mechanism to reduce the required
lifting force,

rolling, on wheels mounted on the foot end of the reformer, the first
rail foot section and the second rail foot section toward the head of the reformer,

pivoting the head sections of the first rail and the second rail on
head rail section supports, and

continuing to roll the first rail foot section and the second rail foot
section toward the head of the reformer until the reformer is in a folded upright position;

securing the rails in their upright position; and

rolling the folded reformer to a desired position.